CLAIMS

1.   A method (20) of encoding a video signal comprising a sequence of images to
generate corresponding encoded video data, the method including the steps of:

    (a)   analyzing (100) the images to identify one or more image segments therein;

    (b)   identifying (110) those of said one or more segments which are substantially not of a
spatially stochastic nature and encoding them in a deterministic manner (140, 170) to
generate first encoded intermediate data;

    (c)   identifying (110, 120) those of said one or more segments which are of a substantially
spatially stochastic nature and encoding them (150, 160, 170, 180) by way of one or
more corresponding stochastic model parameters to generate second encoded
intermediate data; and

    (d)   merging (180) the first and second intermediate data to generate the encoded video
data.

2.   A method according to Claim 1, wherein in step (c), the one or more segments of a
substantially spatially stochastic nature are encoded using first or second encoding routines
depending upon a characteristic of temporal motion occurring within said one or more
segments, said first routine (150, 170) being adapted for processing segments in which
motion occurs and said second routine (160, 170) being adapted for processing segments
which are substantially temporally static.

3.   A method according to Claim 1 or 2, wherein:

    (e)   in step (b), said one or more segments substantially not of a spatially stochastic nature
are deterministically encoded using I-frames, B-frames and/or P-frames, said I-
frames including information deterministically describing texture components of said
one or more segments, and said B-frames and/or P-frames including information
describing temporal motion of said one or more segments; and

    (f)   in step (c), said one or more segments of a substantially stochastic nature comprising
texture components are encoded using said model parameters, B-frames and/or P-
frames, said model parameters describing texture of said one or more segments and

said B-frames and/or P-frames including information describing temporal motion of said one of more segments.

4.   A data carrier bearing encoded video data generated using a method according to any one of Claims 1 to 3.

5.   A method of decoding encoded video data to regenerate corresponding decoded video signals, the method including the steps of:

(a)   receiving the encoded video data and identifying one or more segments therein;

(b)   identifying those of said one or more segments substantially not of a spatially stochastic nature and decoding them in a deterministic manner to generate first decoded intermediate data;

(c)   identifying those of said one or more segments substantially of a spatially stochastic nature and decoding them by way of one or more stochastic models driven by model parameters included in said encoded video data input to generate second decoded intermediate data; and

(d)   merging the first and second intermediate data to generate said decoded video signals.

6.   A method according to Claim 5, wherein in step (c) the one or more segments of a substantially spatially stochastic nature are decoded using first or second decoding routines depending upon a characteristic of temporal motion occurring within said one or more segments, said first routine being adapted for processing segments in which motion occurs and said second routine being adapted for processing segments which are substantially temporally static.

7.   A method according to Claim 5 or 6, wherein:

(e)   in step (b), said one or more segments substantially not of a spatially stochastic nature are deterministically decoded using I-frames, B-frames and/or P-frames, said I-frames including information deterministically describing texture components of said one or more segments, and said B-frames and/or P-frames including information describing temporal motion of said one or more segments; and

(f)   in step (c), said one or more segments of a substantially stochastic nature comprising texture components are decoded using said model parameters, B-frames and/or P-frames, said model parameters describing texture of said one or more segments and

said B-frames and/or P-frames including information describing temporal motion of said one of more segments.

8.   An encoder (20) for encoding a video signal comprising a sequence of images to generate corresponding encoded video data, the encoder (20) including:

(a)   analyzing means for analyzing the images to identify one or more image segments therein;

(b)   first identifying means (110) for identifying those of said one or more segments which are substantially not of a spatially stochastic nature and encoding them in a deterministic manner to generate first encoded intermediate data;

(c)   second identifying means (120) for identifying those of said one or more segments which are of a substantially spatially stochastic nature and encoding them by way of one or more corresponding stochastic model parameters to generate second encoded intermediate data; and

(d)   data merging means (180) for merging the first and second intermediate data to generate the encoded video data.

9.   An encoder (20) according to Claim 8, wherein the second identifying means is operable to encode the one or more segments of a substantially spatially stochastic nature using first or second encoding routines depending upon a characteristic of temporal motion occurring within said one or more segments, said first routine being adapted for processing segments in which motion occurs and said second routine being adapted for processing segments which are substantially temporally static.

10.   An encoder (20) according to Claim 8 or 9, wherein:

(e)   said first identifying means is operable to deterministically encoded said one or more segments substantially not of a spatially stochastic nature using I-frames, B-frames and/or P-frames, said I-frames including information deterministically describing texture components of said one or more segments, and said B-frames and/or P-frames including information describing temporal motion of said one or more segments; and

(f)   said second identifying means is operable to encode said one or more segments of a substantially stochastic nature comprising texture components using said model parameters, B-frames and/or P-frames, said model parameters describing texture of

said one or more segments and said B-frames and/or P-frames including information describing temporal motion of said one of more segments.

11.   An encoder (20) according to Claim 8, 9 or 10 implemented using at least one of
electronic hardware and software executable on computing hardware.

12.   A decoder (40) for decoding encoded video data to regenerate corresponding decoded video signals, the decoder including:

(a)   analyzing means for receiving the encoded video data and identifying one or more segments therein;

(b)   first identifying means for identifying those of said one or more segments substantially not of a spatially stochastic nature and decoding them in a deterministic manner to generate first decoded intermediate data;

(c)   second identifying means for identifying those of said one or more segments substantially of a spatially stochastic nature and decoding them by way of one or more stochastic models driven by model parameters included in said encoded video data input to generate second decoded intermediate data; and

(d)   merging means for merging the first and second intermediate data to generate said decoded video signals.

13.   A decoder (40) according to Claim 12, arranged to decode the one or more segments of a substantially spatially stochastic nature using first or second decoding routines depending upon a characteristic of temporal motion occurring within said one or more segments, said first routine being adapted for processing segments in which motion occurs and said second routine being adapted for processing segments which are substantially temporally static.

14.   A decoder (40) according to Claim 12 or 13, wherein:

(e)   said first identifying means is operable to decode deterministically said one or more segments substantially not of a spatially stochastic nature using I-frames, B-frames and/or P-frames, said I-frames including information deterministically describing texture components of said one or more segments, and said B-frames and/or P-frames including information describing temporal motion of said one or more segments; and

(f)   said second identifying means is operable to decode said one or more segments of a substantially stochastic nature comprising texture components using said model parameters, B-frames and/or P-frames, said model parameters describing texture of said one or more segments and said B-frames and/or P-frames including information describing temporal motion of said one of more segments.

5

15.   A decoder (40) according to Claim 12, 13 or 14 implemented using at least one of electronic hardware and software executable on computing hardware.

10